


GeoPowering the West
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Mission

US Department of Energy Office of Energy
Efficiency and Renewable Energy

**To ensure that Federal programs for
efficient energy and clean power
technologies are implemented at the
Federal, regional, state and local levels,
providing Americans with a stronger
economy, healthier environment, and more
secure future.**



Opportunities for Partnerships

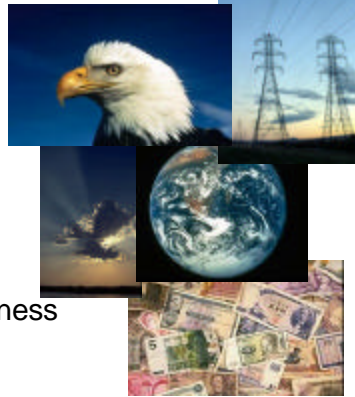
- Rebuild America
- Wind Powering America
- Million Solar Roofs
- Geopowering the West
- Distributed Energy Resources
- Clean Cities
- Building Standards and Codes
- Federal Energy Management Program



GEOPOWERING THE WEST

Why Geothermal?

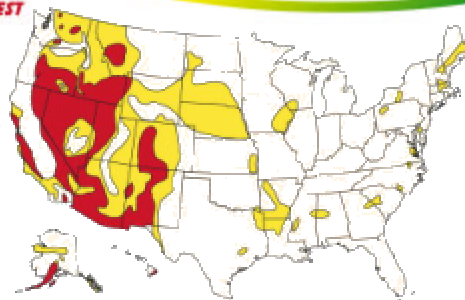
- Energy Security
- Electric Restructuring
- Clean Air
- Climate Change
- Economic Competitiveness
- Energy Reliability



GEOPOWERING THE WEST

Geothermal Resource Map

Geothermal Resources



U.S. Installed Capacity (2,800 MW)

- California – 2500 MW
- Nevada – 200 MW
- Utah – 40 MW
- Hawaii – 30 MW

Additional States With Geothermal Development Potential:

- Alaska
- Arizona
- Colorado
- Idaho
- New Mexico
- Oregon
- Wyoming



Goals

- Build on current and future public and private sector efforts to significantly expand the use of geothermal electricity and geothermal heat to a widespread portion of the West
 - Provide 10% of the electricity needs of the western states by 2020 with 20,000MW of geothermal energy installed
 - Supply the electrical power or heat energy needs of at least 5 million U.S. homes by 2010
 - Double the number of states with geothermal electric power facilities to eight by 2006



Executive Order 13123

“Greening the Government Through Efficient Energy Management”

- Section 404 Electricity Use
 - Include green power provisions in RFP’s “whenever procuring electricity”
 - Can use energy efficiency savings to pay premium
- Renewables Goal: 2.5% by 2005
 - “**Renewable energy**” means energy produced by solar, wind, geothermal, and biomass power
 - Credit towards EE goals

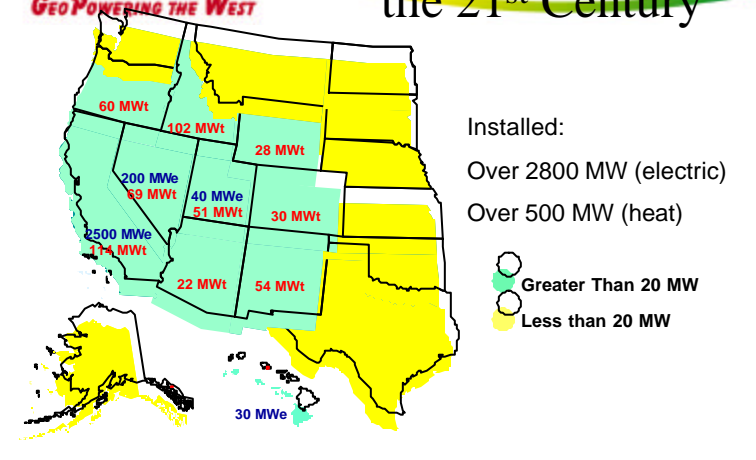


Other Federal Renewable Goals

- Department of Energy Directive
 - 3% of DOE electricity from non-hydro renewable energy by 2005
 - 7.5% by 2010
- Wind Powering America
 - Encourage federal agencies to purchase 5% of electricity from wind by 2010
- Proposed Senate Bill includes Federal Purchase Requirement (S1766, Section 263)



Heat and Power for the 21st Century





Local and Regional Economic Development

- District Heating
- Distributed Power
- Process Heat
- Agriculture
- Aquaculture



Geothermal Energy Getting Cheaper

1980: 15-16 cents/kWh

**2000:
5-8 cents/kWh**

- Improved technology
- Economies of scale
- Reduced cost of finance



Steamboat Hills
Geothermal Facility

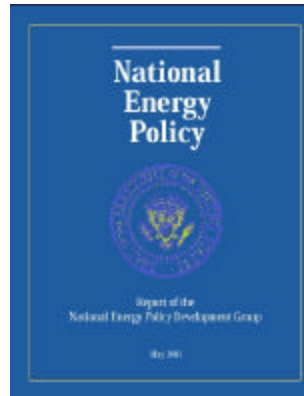
2010: 3-5 cents/kWh



The President's National Energy Policy

Contains over 100 recommendations

- ▶ 42 modernize and increase conservation, protect the environment and help communities.
- ▶ 35 diversify the supply of clean, affordable renewable energy and modernize our antiquated infrastructure.
- ▶ 25 strengthen global alliances and national energy security.



National Energy Policy (NEP) and GeoPowering the West

Through Public-Private Partnerships:

- Outreach & Education

" Develop an education campaign that communicates the benefits of alternative forms of energy..."

- Access to Public Lands

" The NEPD Group recommends the President direct the Secretaries of the Interior and Energy to re-evaluate access limitations to federal lands in order to increase renewable energy production...."



NEP: Outreach and Education


- DOE Leadership
- Federal, State and Local Outreach
- Industry Partnerships



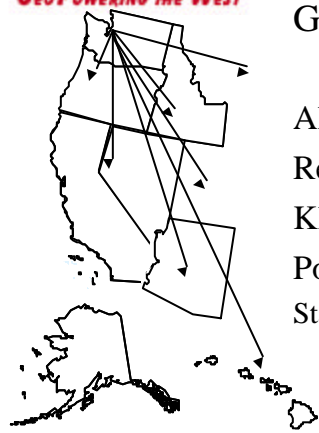
State Workshops and Working Groups

- **Objectives**
 - Target States in most need
 - Host state-wide forum
 - Target key Federal agency managers
 - Secure state-wide coordination
 - Leverage resources
 - Identify key barriers/opportunities
 - Secure high visibility
 - Secure key support
 - Provide strong education





Education/Information/Training



Geopowering State Working Groups and Network

Albuquerque, April 3-4


Reno, April 17th

Klamath Falls, April 19th

Portland, April 20th

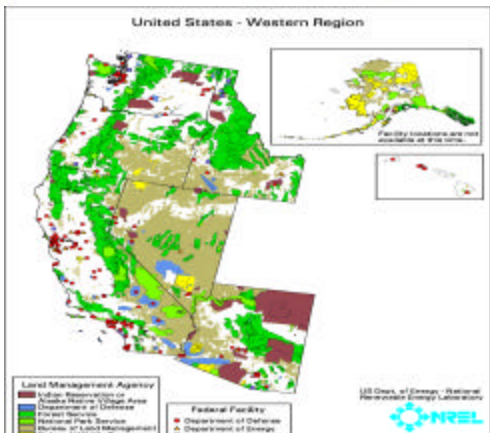
State Geopowering Network

- WSU/ Gordon Bloomquist
- NREL, Sandia, INEEL
- GRC Reno, Sept 22-26th

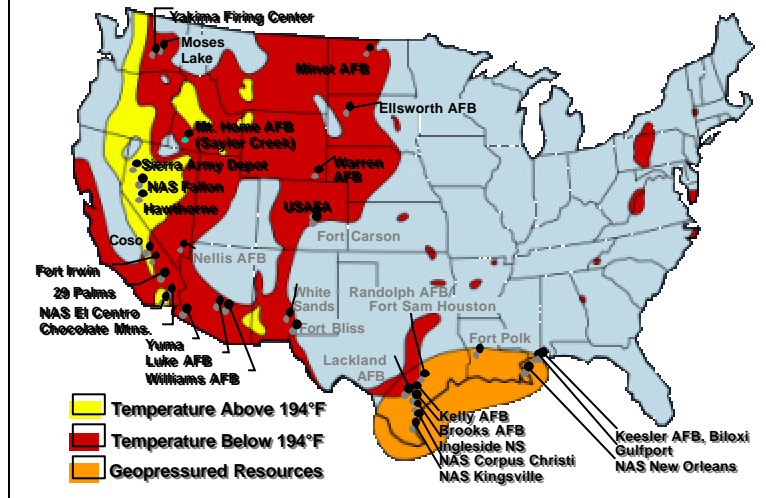


Federal Land Ownership

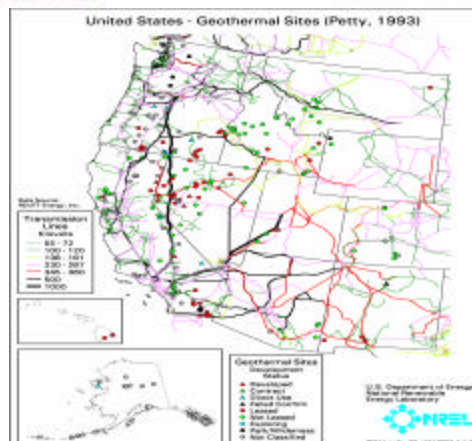
Federal Agencies helping to drive the market



Geothermal Resources



West Coast 500kV DC Intertie





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Challenges

- Use of public lands
- Siting/ Permitting
- Cost of electricity
- New resources for development
- Market uncertainties
- Transmission access
- Public awareness



GEOPOWERING THE WEST

A Vision for the Geothermal Energy Future

- Ready Access to Land
- Thoroughly Mapped and Developed Resources
- Cost Competitive Technology
- Available Transmission Corridors – Energy Export
- Solid Energy Related Rural Economic Development Base
- Energy Security – Diversified American Energy Portfolio





GEOPOWERING THE WEST

Our Role...

Assess customer priorities and needs

Identify EERE resources

Offer products and services from DOE

Leverage Federal/ non-Federal
resources

Monitor and report performance



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